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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,306	07/03/2002	Donald F. Hooper	10559-303US1	1999
7590 04/13/2005			EXAMINER	
Fish & Richardson 225 Franklin Street Boston, MA 02110-2804			PAN, DANIEL H	
			ART UNIT	PAPER NUMBER
			2183	
DATE MAILED: 04/13/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/069,306

Applicant(s)

HOOPER ET AL.

Examiner

Daniel Pan

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8, 11, 15-20 and 22-25 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 9, 10, 12-14 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/06/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. Claims 1-25 remain for examination.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 15, 16, 20, 22, 24 are rejected under 35 U.S.C. 102(a) and (b) as being anticipated by Moller et al. (4,868,735).
3. Claims 2, 3, 8, 17, 23, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moller et al. (4,868,735) in view of Adkins (5,247,671).
4. Claims 4, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moller et al. (4,868,735) in view of Adkins (5,247,671) as applied to claim 3 above, and further in view of Angle (5,541,920).
5. Claims 5, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moller et al. (4,868,735) in view of Adkins (5,247,671) as applied to claim 3 above, and further in view of Manning (5,610,864).
6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moller et al. (4,868,735) in view of Adkins (5,247,671) as applied to claim 3 above, and further in view of Turner et al. (6,505,229).

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The rejections are maintained and incorporated by reference the last office action on 12/21/04.

7. The response filed on 01/13/05 by applicant has been fully considered but is not persuasive.

8. In the remarks applicant argued that :

a) the traditional swap instruction is different than the processor having micro engines to swap the context.

9. As to a) above, and the newly amended feature of the "microengines to swap the context", Although in applicant's specification (page 2, lines 28-33) teaches the microengines maintain the program counter in hardware, it also taught in page 3, lines 14-16, that the microengines can execute memory reference instructions to access the RAMs, and the sram SWAP (see claim 4) is the parameter field of a swap instruction (page 19, lines 1-11). The hardware structure of the micro engines are not being reflected into the claim. Therefore, the microengine is read as any functional element to swap the context in either hardware or instruction format in general. The applicant is reminded that unclaimed features cannot be used to overcome the prior art (e.g. see CCPA In re Lundenberg & Zuschlag, 113, USPQ 530, 534 (1957)). For example, nowhere does applicant claim recite that the microengines maintain the program counter in hardware, nor the micro engines are different from swap instruction. Is the applicant trying to refer the word "microengine" as the hardware counter or the swap

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instruction being executed ? Furthermore, Moller did disclose his swap instructions swap the context running in a specified hardware processor(see ~~fig.~~fig.2A,B).

As far as the parallel multithreaded processor in preamble, no specific feature of the parallel multithreaded processor can be found in the body of the claim to support the parallel multithreaded processor , therefore, it is treated as a field of use, and not given a patentable weight.

Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the FBI swapping and wakeup when the thread's FBI was received indicating the FBI CSR, Scratchpad, TFIFO, or RFIFO has completed.

Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the parameter "seq_num1_change/seq_num2_change" which specifies swap out of the current context and wakes it up when the value of the sequence number changes.

Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the voluntary parameter for swapping out if another thread is ready to run, and if the thread

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is swapped , the swapped thread is automatically re-enabled to run at some subsequent context arbitration point.

Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the auto_push for swapping out and wakes up when SRAM transfer read register data has been automatically pushed by Fbus interface.

Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the parameter specifying kill for preventing the current context or thread from executing again until the appropriate enable bit for the thread is set in the CTX_ENABLES register.

Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the pci parameter for swapping out and wakes up when the PCI unit signals a DMA transfer has been completed.

Claims 14 , 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of

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the base claim and any intervening claims. None of the prior art of record further teaches the optional_token "defer one" for specifying that one instruction will be executed after this reference before the context is swapped.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

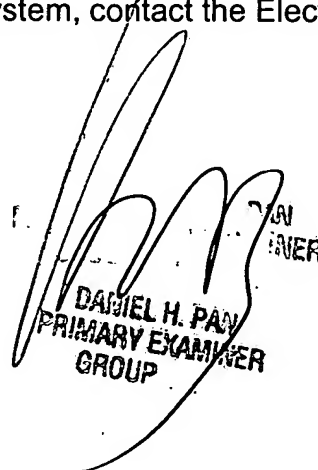
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 703 305 9696, or the new number 571 272 4172. The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 703 305 9712, or the new number 571 272 4162. The fax phone number for the organization where this application or proceeding is assigned is 703 306 5404.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

21 Century Strategic Plan


DANIEL H. PAN
PRIMARY EXAMINER
GROUP